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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,954	07/07/2003	Christine Lee	95-535	6609

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EXAMINER	
HAROON, ADEEL	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,954	LEE ET AL.	
	Examiner	Art Unit	
	Adeel Haroon	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Amendment filed on date: 2/2/06. Claims 1-7 are still pending.

Response to Arguments

2. Applicant's arguments filed 2/2/06 have been fully considered but they are not persuasive.

Applicant argues that the examiner based his rejection on a piecemeal analysis of the reference, Kopmeiners et al. The examiner respectfully disagrees. Kopmeiners et al.'s process is an iterative process as cited in Column 5, lines 27-36 and as shown in steps 250 and 265 showing a loop back to step 205 in figure 2B. Therefore, the applicant's argument that the examiner used a piecemeal analysis of the reference is ineffective since the parts of the gain control technique are conducted in a loop fashion thus the order of the steps is not linear.

The applicant next argues that Kopmeiners et al. does not disclose the limitation of "setting the gain to a minimum gain value", and actually calls the examiner's assertion absurd. The examiner respectfully disagrees. A careful analysis of Kopmeiners et al. reveals this limitation. As cited in the previous action, Kopmeiners et al. discloses that if

the first power value exceeds the prescribed input range, setting the gain to a minimum value by decrementing the gain value so it does not exceed the prescribed input range and then determining the optimum gain for the received signal based on this minimum gain value (Column 5, lines 16-17 and Column 2, lines 57-65). In Kopmeiners et al.'s system, when the power value is out of the input range, it has two possibilities of either incrementing or decrementing the gain by 20 dB depending on if the power was below or above the input range respectively resulting in two possible gain settings of -20 dB and 20dB. So by decrementing the gain value, Kopmeiners et al. is setting the gain value to -20dB, which is clearly the minimum gain value of its system. Therefore, the examiners assertion that decrementing the gain reads on the claimed "setting the gain to a minimum" is not absurd but actually a rather reasonable and logical interpretation.

Further, this step of setting the gain value to a minimum value is a single step as portrayed by step 215 in figure 2a.

The applicant also argues that Kopmeiners et al.'s checking to see if the power exceeds the prescribed input value range is not based on the initial gain value. The examiner again points to iterative nature of Kopmeiners et al.'s system. As shown in step 260, a gain is set, which is the initial gain value in this loop. Then, with an answer of yes in step 265 the process is looped back to step 205 where it checks to see if the power exceeds the prescribed input value range. Therefore, Kopmeiners et al.'s checking to see if the power exceeds the prescribed input value range is based on the initial gain value.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kopmeiners et al. (U.S. 5,917,865).

With respect to claim 1, Kopmeiners et al. discloses a method in a wireless transceiver in figures 2a and 2b. Kopmeiners et al. discloses setting a gain to an initial gain value for mapping a received wireless signal to a first power value to an input circuit, element number 120, having a prescribed input range and amplifying with element number 110 the signal with the initial gain value to the first power value (Column 5, lines 8-13). Kopmeiners et al. also disclose determining if the power of the signal does not exceed the prescribed input range, then determining an optimum gain for the received wireless signal relative to the initial gain and power values (Column 5, lines 19-24). Kopmeiners et al. also discloses that if the first power value exceeds the prescribed input range, setting the gain to a minimum value by decrementing the gain value so it does not exceed the prescribed input range and then determining the optimum gain for the received signal based on this minimum gain value (Column 5, lines

16-17 and Column 2, lines 57-65). Kopmeiners et al. further discloses outputting the received wireless signal at the optimum gain (Column 5, lines 19-24).

With respect to claim 4, Kopmeiners et al. discloses a wireless transceiver including an input circuit, element number 120, having a prescribed input range (Column 4, lines 26-30). Kopmeiners et al. also discloses a digital gain controller, element number 130, for amplifying a received wireless signal to an optimum gain value (Column 2, lines 45-56). Kopmeiners et al. discloses setting a gain to an initial gain value for mapping a received wireless signal to a first power value to an input circuit, element number 120, having a prescribed input range and amplifying with element number 110 the signal with the initial gain value to the first power value (Column 5, lines 8-13). Kopmeiners et al. also disclose determining if the power of the signal does not exceed the prescribed input range, then determining an optimum gain for the received wireless signal relative to the initial gain and power values (Column 5, lines 19-24). Kopmeiners et al. also discloses that if the first power value exceeds the prescribed input range, setting the gain to a minimum value by decrementing the gain value so it does not exceed the prescribed input range and then determining the optimum gain for the received signal based on this minimum gain value (Column 5, lines 16-17 and Column 2, lines 57-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopmeiners et al. (U.S. 5,917,865) in view of Wheatley, III (U.S. 5,732,341).

With respect to claims 2 and 5, the method of Kopmeiners et al. is described above in the discussion of claims 1 and 4. Kopmeiners et al. further discloses setting the initial gain value based on the dynamic range of the wireless transceiver (Column 2, lines 45-51). Kopmeiners et al. does not expressly disclose setting the gain based on a prescribed signal to noise ratio. However, Wheatley, III teaches using prescribed signal to noise ratio as the basis for setting the gain of transceiver (Column 6, lines 12-20). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention, to apply Wheatley, III's technique of using signal to noise ratio in Kopmeiners et al.'s method in order to have a quality factor for the basis of the gain setting thus removing unwanted noise from the transceiver.

With respect to claims 3 and 6, Kopmeiners et al. further discloses an analog front-end amplifier, element number 110, which inherently has a maximum analog gain (column 4, lines 10-11).

With respect to claim 7, since an OFDM receiver configured for IEEE 802.11a protocol are extremely well known in the art, it would be obvious to one of ordinary skill in the art to use the modified wireless transceiver of Kopmeiners et al. and Wheatley, III as an OFDM receiver in order to be compatible with IEEE 802.11a protocol.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-

7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH
3/17/06

Nguyen Vo
3-19-2006

NGUYEN T. VO
PRIMARY EXAMINER